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10/560,767

12/13/2005

Eugene S. Rubin

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EXAMINER

BONZELL, PHILIP J

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4112

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|---|--|
| Office Action Summary | Application No. 10/560,767 | Applicant(s) RUBIN, EUGENE S. | |
| | Examiner PHILIP J. BONZELL | Art Unit 4112 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/13/2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 20 objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 20 is exactly the same as Claim 15.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3, 7, 11, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent #3339201.

a. For Claim 1, figure 1 of '201 teaches deploying the towed IR decoy (3) and the IR signature (lines extending from the decoy). Column 5, lines 34-36 of '201 teaches "if the decoy was not hit by the missile, it can be retracted again and maintained in an inoperative position until the aircraft is again attacked". Column 5, lines 20-21 teaches, "the radiation from the decoy antenna 3 is much more intense than the radiation of the aircraft".

- b. For Claim 3, column 3, lines 9-16 of '201 teaches, "an aircraft C is provided with a warning antenna 1, and with a decoy means 3 which is connected by connecting means 2 to the aircraft C so that the decoy means 3 is dragged behind the aircraft during flight at a distance determined by the length of the connecting means 2. The decoy means 3 can be retracted into the fuselage of the aircraft where it is normally carried, unless a pursuing missile approaches the aircraft".
- c. For Claim 7, figure 1 of '201 teaches an aircraft system for producing an infrared decoy signature. The infrared decoy signature is created by the decoy (3). Figure 4 teaches an apparatus for moving the decoy means into and out of the aircraft. Figure 2 teaches the switching device (V) which electrically connects the transmitter (S) to the decoy means (3) so that the decoy means can be deployed and powered.
- d. For Claim 11, column 5, lines 20-21 of '201 teaches, "the radiation from the decoy antenna 3 is much more intense than the radiation of the aircraft".
- e. For Claim 12, column 3, lines 9-16 of '201 teaches, "and aircraft C is provided with a warning antenna 1, and with a decoy means 3 which is connected by connecting means 2 to the aircraft C so that the decoy means 3 is dragged behind the aircraft during flight at a distance determined by the length of the connecting means 2. The decoy means 3 can be retracted into the fuselage of the aircraft where it is normally carried, unless a pursuing missile approaches the aircraft".

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 2 rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent #3339201. Column 3, lines 9-16 of '201 teaches, "an aircraft C is provided with a warning antenna 1, and with a decoy means 3 which is connected by connecting means 2 to the aircraft C so that the decoy means 3 is dragged behind the aircraft during flight at a distance determined by the length of the connecting means 2. The decoy means 3 can be retracted into the fuselage of the aircraft where it is normally carried, unless a pursuing missile approaches the aircraft". US '201 is silent about the decoy being retracted at approximately 10,000 feet. However, since '201 teaches that the decoy can be retracted at any time when the aircraft is not being pursued by a missile, it would have been obvious to someone of ordinary skill in the art at the time of the invention to know that the decoy could be retracted at 10,000 feet or any other altitude when there is no missile threat.

6. Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent #3339201 as applied to Claim1 above, and further in view of US Patent #5269132.

- f. For Claim 4, US '201 is silent about masking the infrared signature engine. The abstract of US '132 teaches, "the apparatus consists of a plurality of overlapping hollow panels each having a truncated cone shape supplied with a liquid coolant such that the coolant absorbs heat from the surfaces of the panels and converts the liquid to a vapor. The vapor created by this heat absorption is injected from an end opening of a panel between the panels and the exhaust gases of the jet engine to form a boundary layer". Therefore it would have been obvious to someone of ordinary skill in the art at the time of the invention to modify '201 with the engine mask of '132 in order to reduce the infrared signature of the engine so that incoming missile are less attracted to it.
- g. For Claim 6, US '201 is silent about increasing the exhaust obscurant. Column 1, lines 22-24 teaches "injecting various coolants into the engine combustion chambers", and Claim 1 teaches, "controlling the supply of liquid coolant". Therefore it would have been obvious to someone of ordinary skill in the art at the time of the invention to modify '201"with the controlling of exhaust obscurant as taught in '132 in order to mask the infrared signature of the engines in order to reduce the risk of missiles being attracted to the aircraft.
7. Claim 5 rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent #3339201. Column 3, lines 9-16 of '201 teaches, "and aircraft C is provided with a warning antenna 1, and with a decoy means 3 which is connected by connecting means 2 to the aircraft C so that the decoy means 3 is dragged behind the aircraft during flight

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at a distance determined by the length of the connecting means 2. The decoy means 3 can be retracted into the fuselage of the aircraft where it is normally carried, unless a pursuing missile approaches the aircraft". Column 5, lines 20-21 teaches, "the radiation from the decoy antenna 3 is much more intense than the radiation of the aircraft". US '201 is silent about repeating the detecting act and increasing the infrared intensity of the decoy if need. However, it can be seen that it would have been obvious to someone of ordinary skill in the art at the time of the invention to know that the warning antenna (1) is constantly monitoring the surrounding airspace and that the decoy has a more intense infrared signature than the aircraft's engines when it is deployed.

8. Claims 8 and 10 rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent #3339201 as applied to claim 7 above, and further in view of US PgPub #2003/0071164.

h. For Claim 8, US '201 is silent about the use of fiber optics in the infrared decoy. However, paragraph 0003 of '164 teaches "fiber optic wires". Therefore it would have been obvious to someone of ordinary skill in the art at the time of the invention to modify '201 with the fiber optics of '164 in order to accurately create an infrared signal from the decoy device.

i. For Claim 10, US '201 is silent about the use of lasers as electrical supply source. However, paragraph 0003 of '164 teaches "fiber optic wires". It is well known in the art that fiber optic wires are used to carry a laser power source. Therefore it would have been obvious to someone of ordinary skill in the art at

the time of the invention to modify '201 with the fiber optics and inherent laser source of '164 in order to power an infrared decoy with a very accurate technology.

9. Claim 9 rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent #3339201 as applied to claim 7 above, and further in view of US Patent #6571714. US '201 is silent about the use of heating elements in the infrared decoy. However, claim 18 of '714 teaches, "a plurality of heating elements...within the infrared augementer device". Therefore it would have been obvious to someone of ordinary skill in the art at the time of the invention to modify '201 with the heating elements of '714 in order to create an infrared source that is well known and tested.

10. Claim 13 rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent #3339201 as applied to claim 7 above, and further in view of US Patent #5269132. US '201 is silent about having an engine exhaust mask. However, US '201 is silent about masking the infrared signature engine. The abstract of US '132 teaches, "the apparatus consists of a plurality of overlapping hollow panels each having a truncated cone shape supplied with a liquid coolant such that the coolant absorbs heat from the surfaces of the panels and converts the liquid to a vapor. The vapor created by this heat absorption is injected from an end opening of a panel between the panels and the exhaust gases of the jet engine to form a boundary layer". Therefore it would have been obvious to someone of ordinary skill in the art at the time of the invention to modify '201 with the

engine mask of '132 in order to reduce the infrared signature of the engine so that incoming missile are less attracted to it.

11. Claims 14-16 and 19-20 rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent #3339201 in view of US Patent #5269132.

j. For Claim 14, figure 1 of '201 teaches a towed infrared decoy (3) and a warning antenna (1). Figure 4 of '201 teaches a deployment and retracting device. US '201 is silent about an engine mask. However, US '201 is silent about masking the infrared signature engine. The abstract of US '132 teaches, "the apparatus consists of a plurality of overlapping hollow panels each having a truncated cone shape supplied with a liquid coolant such that the coolant absorbs heat from the surfaces of the panels and converts the liquid to a vapor. The vapor created by this heat absorption is injected from an end opening of a panel between the panels and the exhaust gases of the jet engine to form a boundary layer". Therefore it would have been obvious to someone of ordinary skill in the art at the time of the invention to modify '201 with the engine mask of '132 in order to reduce the infrared signature of the engine so that incoming missile are less attracted to it.

k. For Claims 15-16 and 20, US '201 is silent about an engine mask including an additive exhaust stream, the stream of which is an other infrared blocking fluid. However, column 1, lines 22-24 teaches "injecting various coolants into the engine combustion chambers" for infrared signal reduction.

Therefore it would have been obvious to someone of ordinary skill in the art at the time of the invention to modify '201 with the engine additive of '132 in order to reduce the infrared signal of the aircraft.

I. For Claim 19, column 5, lines 20-21 of '201 teaches, "the radiation from the decoy antenna 3 is much more intense than the radiation of the aircraft".

12. Claim 17 rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent #3339201 in view of US Patent #5269132 as applied to claim 14 above, and further in view of US PgPub #2003/0071164. US '201 and '132 are silent about the use of fiber optics cables and lasers. However, paragraph 0003 of '164 teaches "fiber optic wires". It is well known in the art that fiber optic wires are used to carry a laser power source. Therefore it would have been obvious to someone of ordinary skill in the art at the time of the invention to modify '201 with the fiber optics and inherent laser source of '164 in order to power an infrared decoy with a very accurate technology.

13. Claim 18 rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent #3339201 in view of US Patent #5269132 as applied to claim 14 above, and further in view of US Patent #6571714. US '201 is silent about the use of heating elements in the infrared decoy. However, claim 18 of '714 teaches, "a plurality of heating elements...within the infrared augments device". Therefore it would have been obvious to someone of ordinary skill in the art at the time of the invention to modify '201

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with the heating elements of '714 in order to create an infrared source that is well known and tested.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following is a list of pertinent art: US Patent #5497156, US Patent #6055909, US Patent #4852455, and US Patent #5585594.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PHILIP J. BONZELL whose telephone number is (571)270-3663. The examiner can normally be reached on M-Th and alternate Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David V. Bruce can be reached on 571-272-2487. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. J. B./
Examiner, Art Unit 4112

pjb

/David V Bruce/

Supervisory Patent Examiner, Art Unit 4112